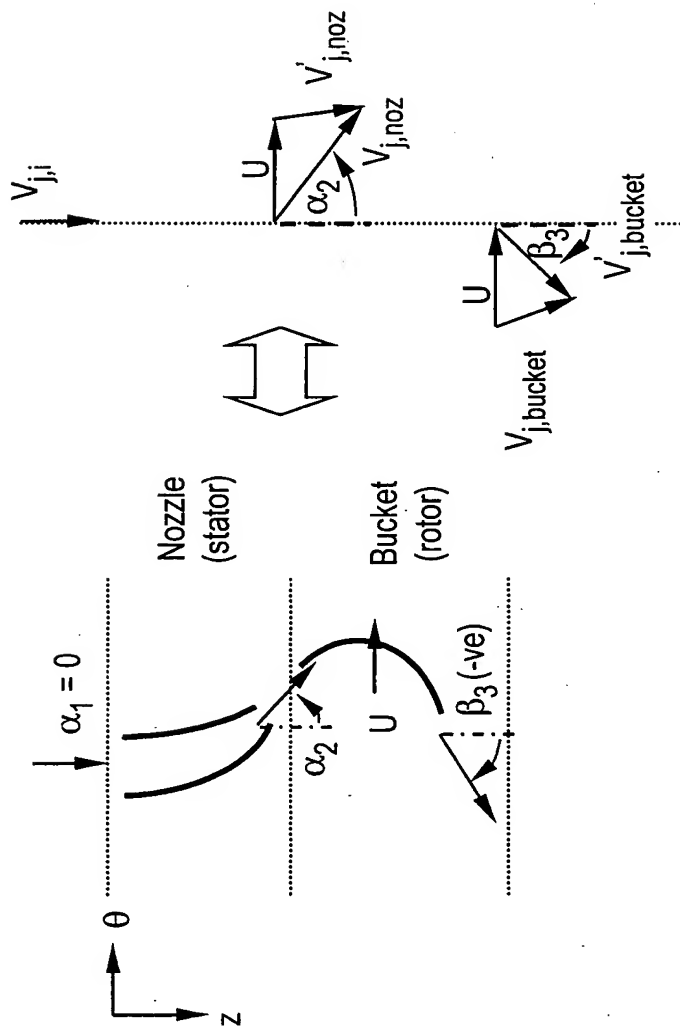


10



FIG. 2



•  $V_{j,i}$ ,  $V_{j,noz}$ ,  $V_{j,bucket}$  - stator frame  
of reference

•  $V'_{j,i}$ ,  $V'_{j,noz}$ ,  $V'_{j,bucket}$  - rotor frame  
of reference

•  $U$  : rotor speed ( $\omega^* r$ )

•  $\alpha_2$ ,  $\beta_3$  : design parameters



FIG. 2

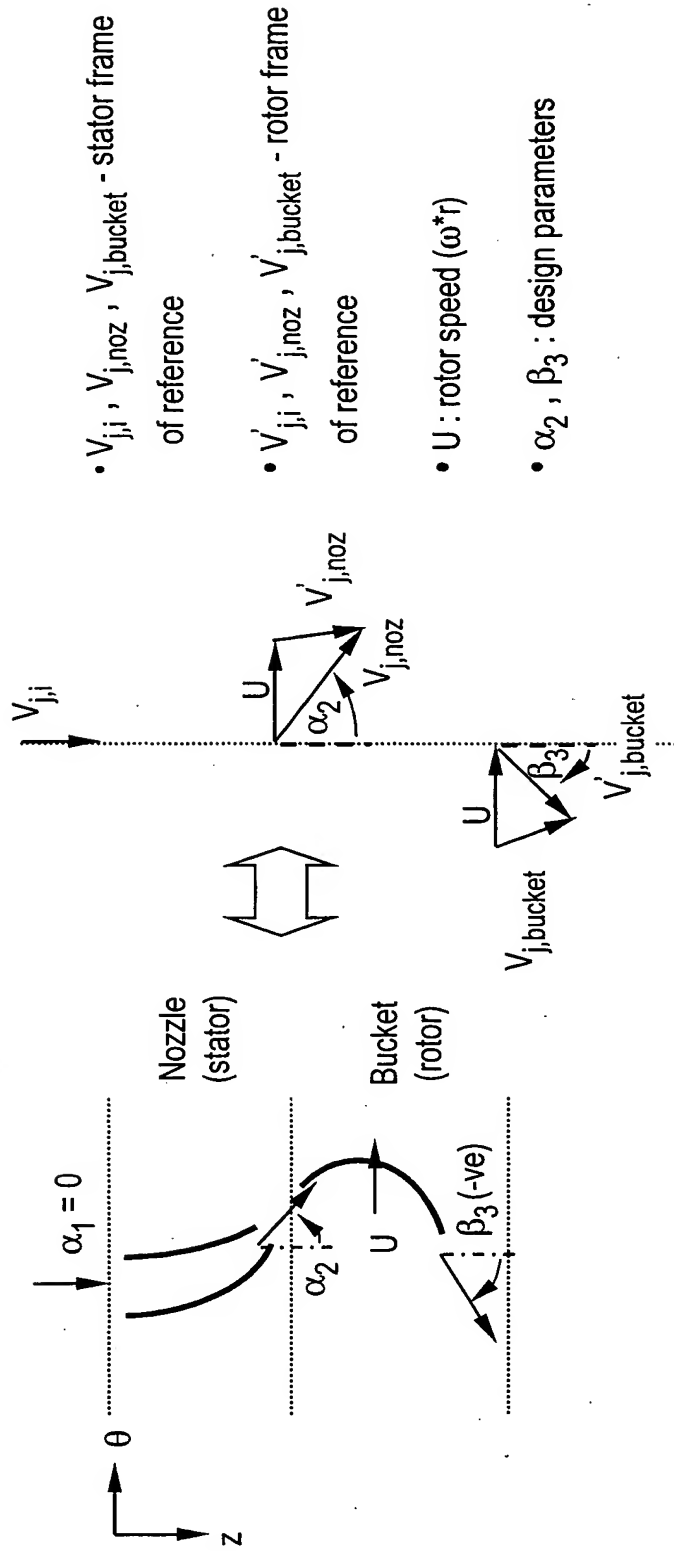




FIG. 3

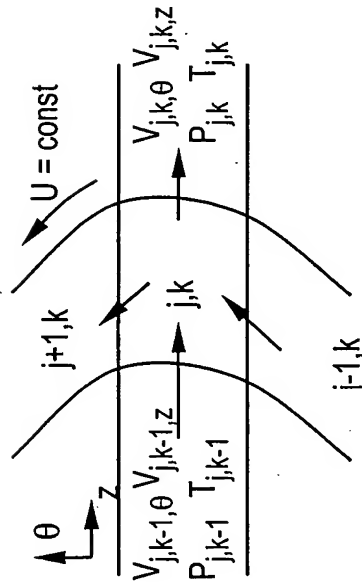
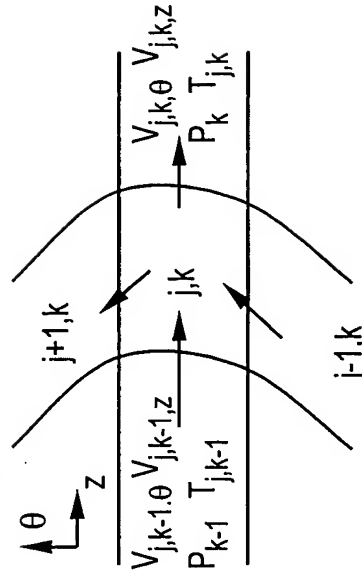


FIG. 4



# FIG. 5

Measurement									
MW	CPD (psig)	CPD (psia)	CPDa (atm)	CPR (calc)	TTRF (F)	TTXM (F)	CTD (F)	IGV (deg)	Swirl (deg)
69.7	195.2	209.63	14.26	14.53	2365	1110	694	84.2	56.5
65	191	205.43	13.98	14.24	2310	1081	686	83.9	59.7
60.1	179.2	193.63	13.18	13.42	2299	1092	670	75.6	63.4
55.1	168.9	183.33	12.47	12.70	2286	1102	659	68.4	68.6
50	156.8	171.23	11.65	11.87	2277	1119	643	61.9	81.3
45	145.6	160.03	10.89	11.09	2250	1128	633	56.7	89.9

Model					
T <sub>in</sub> @peak(F)	T <sub>in</sub> @trough(F)	TTRF (F)	TTXM (F)	Swirl (deg)	
2485	2235	2367	1115	55	
2430	2180	2311.9	1074.4	57	
2418	2168	2299.8	1095.3	67.5	
2405	2155	2286	1108.4	75	
2395	2145	2276.8	1124.2	84	
2370	2120	2251.7	1124.8	92	





FIG. 6A

Turbine exhaust T profile

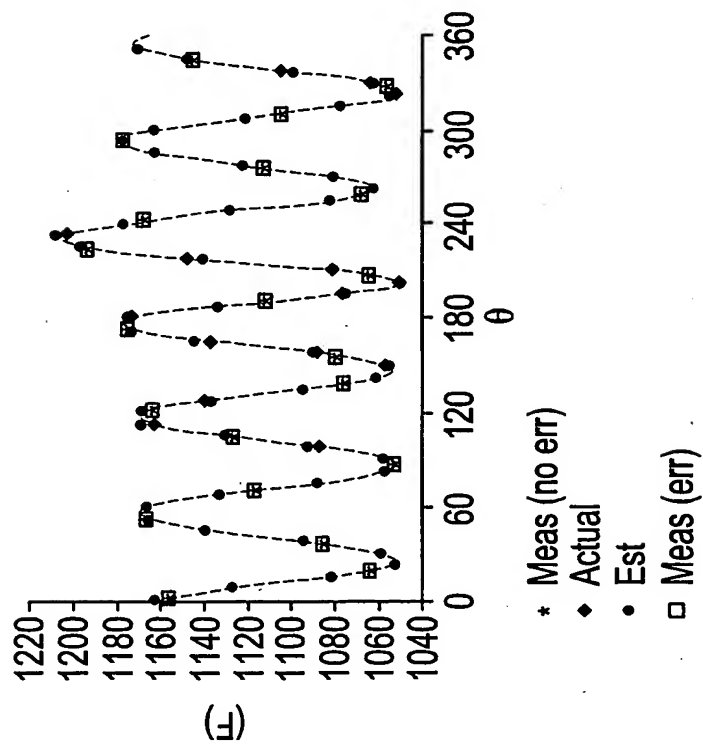
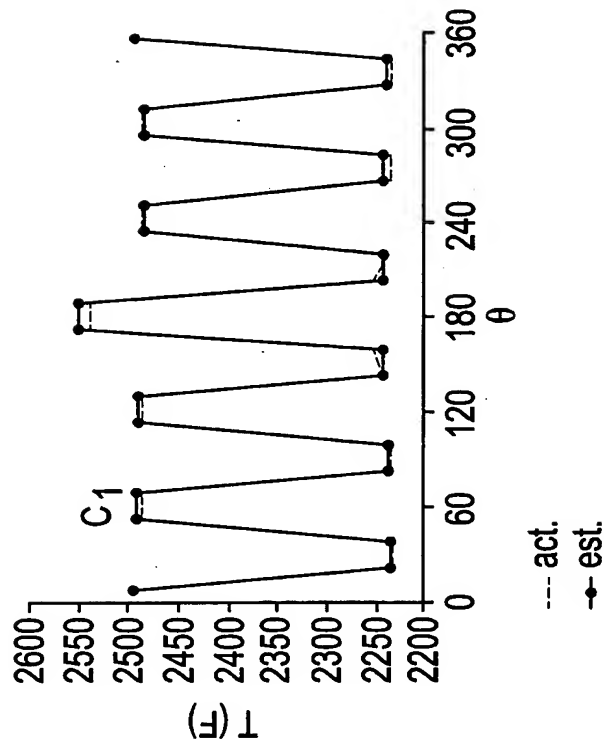


FIG. 6B

Turbine inlet T profile





6/8

FIG. 7B

Turbine inlet T profile

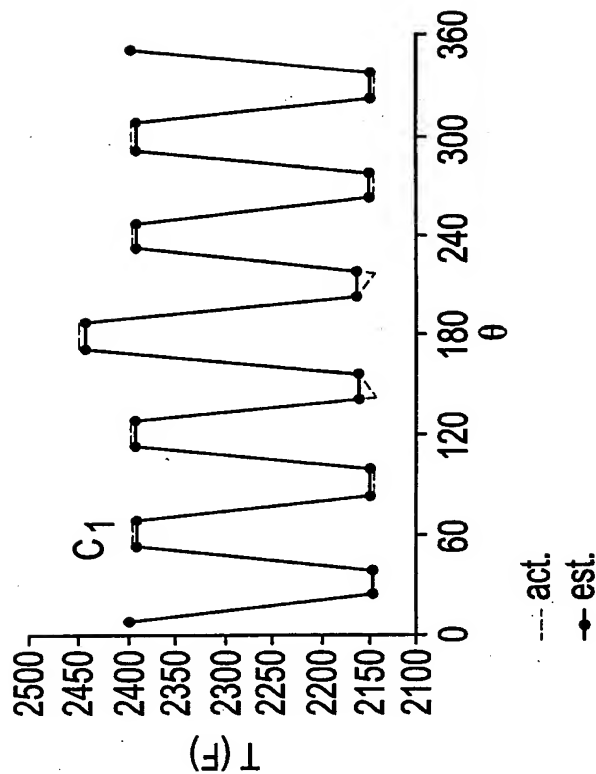


FIG. 7A

Turbine exhaust T profile

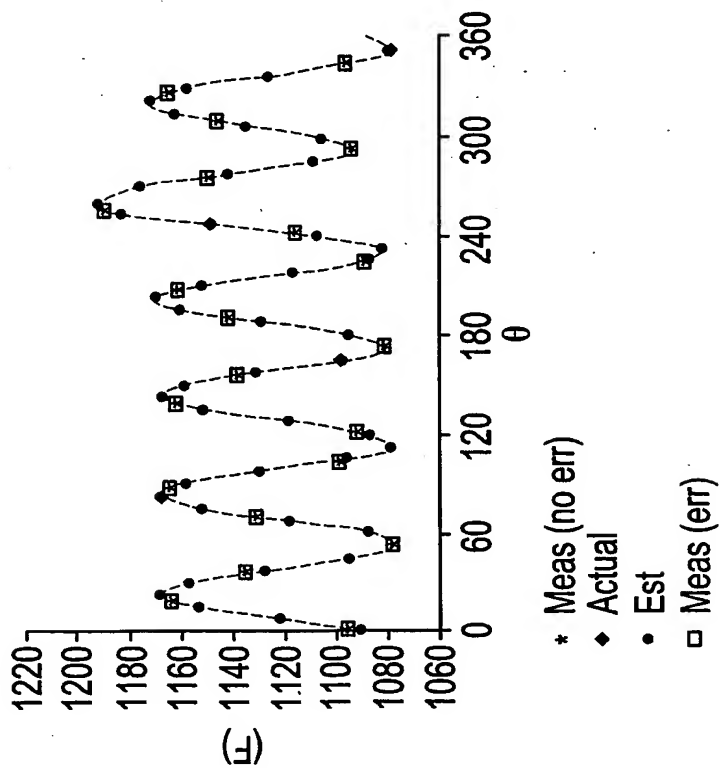




FIG. 8A

FIG. 8B

Estimated Turbine Inlet Temperature Profile (Mean : 2364.5 degF)

● C6 - 0.989 C1 - 1.021 C2 - 0.98 C3 - 1.008 C4 - 1.004 C5 - 0.998

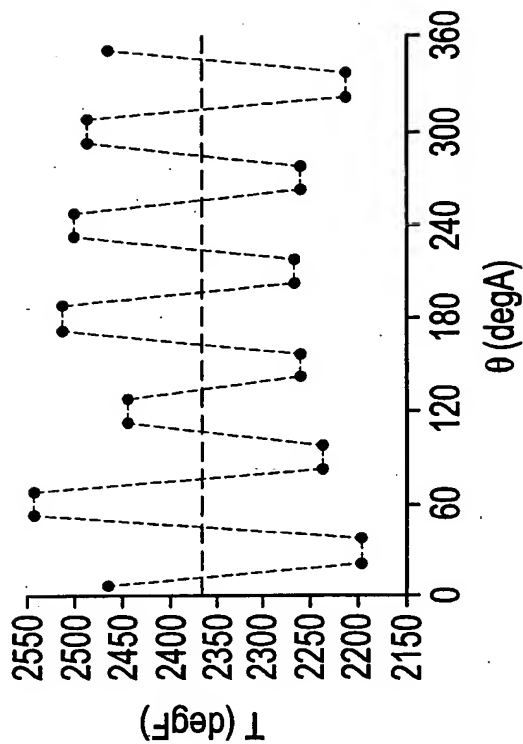
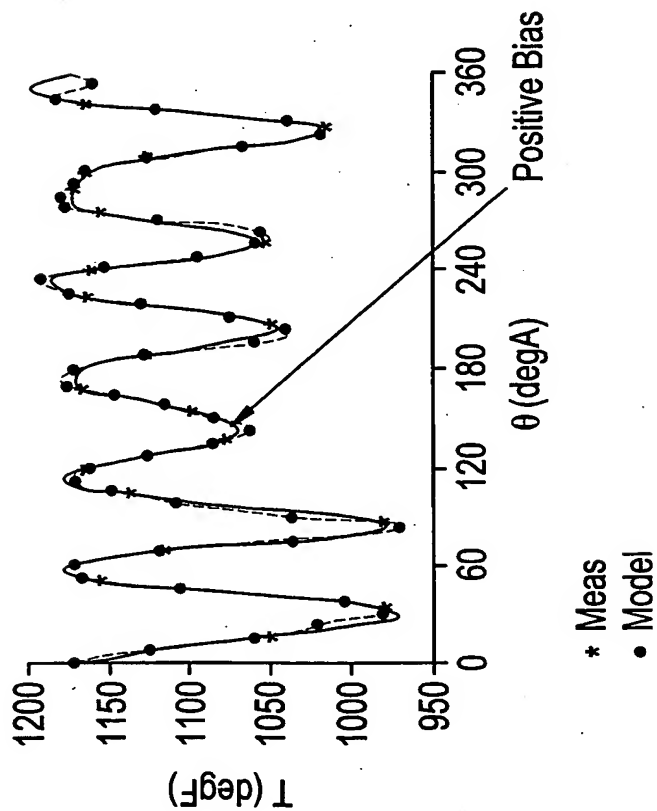
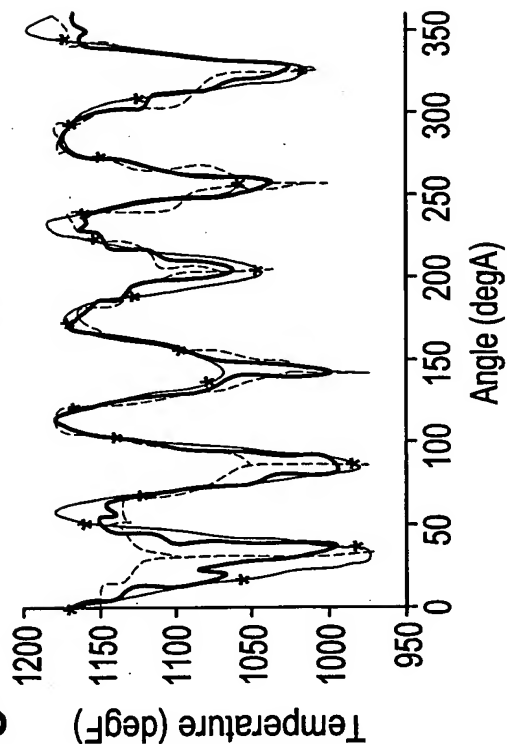






FIG. 9

Normalized/Filtered & Base Load Snapshot



--- normalized  
— normalized & filtered  
— snapshot

FIG. 10B

Estimated Turbine Inlet Temperature Profile (Mean : 2369.3 degF)

C6 - 0.993 C1 - 1.016 C2 - 1 C3 - 0.991 C4 - 1.002 C5 - 0.998

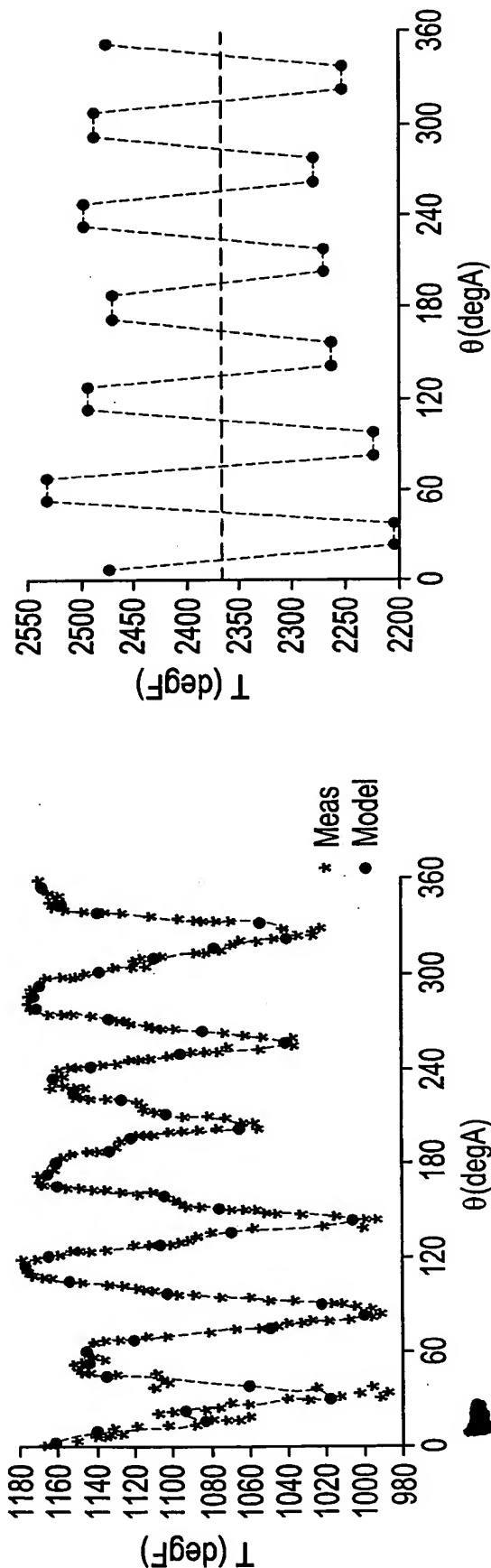


FIG. 10A

Exhaust Temperature Profile

\* Meas  
• Model